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| EXAMINER |
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MORRISON, JAY A

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| ART UNIT | PAPER NUMBER |
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2168

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|----------------------------------------|------------|---------------|
| 3 MONTHS | 02/08/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/776,371

Applicant(s)

CARLIN ET AL.

Examiner

Jay A. Morrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/13/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. Claims 1-42 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per Claims 1-14, these claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims are useful and concrete, but they fail to product a tangible result because nothing is stored in non-

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volatile memory nor is there any other type of real-world result, such as reporting results to a user.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2,4-6,8,15-16,18-20,22,29-30,32-34,36 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosenberg ('Bringing Java to the Enterprise: Oracle on Its Java Server Strategy', Dave Rosenberg, IEEE Internet Computing, March-April 1998).

As per claim 1, Rosenberg teaches

A method for coordinating the operation of a database management system and a common language runtime executing on a common server, said method comprising:
(see abstract and background)

hosting the common language runtime on the database management system;
(Aurora/Java: A Scalable Java Server, pages 55-56)

and executing requests by the common language runtime for at least one system resource via an application programming interface of the database management system. (Aurora/Java: A Scalable Java Server, pages 55-56)

As per claim 2, Rosenberg teaches
said at least one system resource is a memory resource. (Memory Manager, page 56, column 3, through page 57, column 1)

As per claim 4, Rosenberg teaches
said common language runtime requests a memory resource via the application programming interface of the database management system, and the database management system manages the request to allocate a block of physical memory where, had the common language runtime requested said memory resource directly from an associated operation system, the common language runtime would have been allocated a block of virtual memory. (Memory Manager, page 56, column 3, through page 57, column 1)

As per claim 5, Rosenberg teaches
said database management system requests an allocation of memory from an associated operating system where said request is made on behalf of said common language runtime. (Oracle Java server embedded into Oracle server architecture, Aurora/Java: A Scalable Java Server, page 55, column 1)

As per claim 6, Rosenberg teaches
said at least one system resource is an execution of a first thread. (Aurora/Java:
A Scalable Java Server, page 55)

As per claim 8, Rosenberg teaches
said database management system requests an execution of a first thread from
an associated operating system where said request is made on behalf of said common
language runtime. (Aurora/Java: A Scalable Java Server, page 55)

As per claims 15-16,18-20,22
These claims are rejected on grounds corresponding to the arguments given
above for rejected claims 1-2,4-6,8, respectively, and are similarly rejected.

As per claims 29-30,32-34,36
These claims are rejected on grounds corresponding to the arguments given
above for rejected claims 1-2,4-6,8, respectively, and are similarly rejected.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3,17,31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg ('Bringing Java to the Enterprise: Oracle on Its Java Server Strategy', Dave Rosenberg, IEEE Internet Computing, March-April 1998) as applied to claims 1-2 above, and further in view of Bugnion et al. ('Bugnion' hereinafter) (Patent Number 6,944,699).

As per claim 3, Rosenberg teaches

said common language runtime requests a memory resource via the application programming interface of the database management system, said database management system coordinates the request with: at least one other request on a memory management system for said database management system, and a current state of memory on the database management system, to ensure the database

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management system and the common language runtime. (Memory Manager, page 56, column 3 through page 57, column 1)

Rosenberg does not explicitly indicate "use only physical memory to execute said requests."

However, Bugnion discloses "use only physical memory to execute said requests" (column 12, lines 41-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Bugnion because using the steps of "use only physical memory to execute said requests" would have given those skilled in the art the tools to improve the invention by maximizing performance by using the underlying hardware as much as possible. This gives the user the advantage of faster execution of software.

As per claims 17 and 31,

These claims are rejected on grounds corresponding to the arguments given above for rejected claim 3, respectively, and are similarly rejected.

8. Claims 7,21,35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg ('Bringing Java to the Enterprise: Oracle on Its Java Server Strategy', Dave Rosenberg, IEEE Internet Computing, March-April 1998) as applied to claims 1 and 6 above, and further in view of Lucovsky et al. ('Lucovsky' hereinafter) (Patent Number 6,223,207).

As per claim 7, Rosenberg teaches

said common language runtime requests an execution of a first thread via the application programming interfaces of the database management system, and the database management system manages the request to assign the first thread to a processor, ... where, had the common language runtime requested said execution of said first thread directly from an associated operation system, the first thread would have been allocated to a processor preemptively and may not have been the only thread executing on that processor. (Aurora/Java: A Scalable Java Server, pages 55-56)

Rosenberg does not explicitly indicate "ensure the first thread is the only thread executing on that processor, and execute the first thread non-preemptively."

However, Lucovsky discloses "ensure the first thread is the only thread executing on that processor, and execute the first thread non-preemptively" (column 8, lines 37-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Lucovsky because using the steps of "ensure the first thread is the only thread executing on that processor, and execute the first thread non-preemptively" would have given those skilled in the art the tools to improve the invention by reducing the overhead of a multi-threaded process. This gives the user the advantage of better execution times.

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As per claims 21 and 35,

These claims are rejected on grounds corresponding to the arguments given above for rejected claim 7, respectively, and are similarly rejected.

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg ('Bringing Java to the Enterprise: Oracle on Its Java Server Strategy', Dave Rosenberg, IEEE Internet Computing, March-April 1998) as applied to claim 1 above, and further in view of Kumar et al. ('Kumar' hereinafter) (Patent Number 6,697,810).

As per claim 9, Rosenberg teaches
said at least one system resource. (Aurora/Java: A Scalable Java Server, pages 55-56)

Rosenberg does not explicitly indicate "is a secured data resource."

However, Kumar discloses "is a secured data resource" (column 7, lines 25-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Kumar because using the steps of "is a secured data resource" would have given those skilled in the art the tools to improve the invention by having secure access to resources. This gives the user the advantage of having assets protected.

As per claim 10, Rosenberg teaches

said common language runtime requests a ... via the application programming interface of the database management system, and the database management system manages the request. (Aurora/Java: A Scalable Java Server, pages 55-56)

Rosenberg does not explicitly indicate "secured data resource ... to grant or deny access to said data resource based on a predefined criteria."

However, Kumar discloses "secured data resource ... to grant or deny access to said data resource based on a predefined criteria" (column 7, lines 25-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Kumar because using the steps of "secured data resource ... to grant or deny access to said data resource based on a predefined criteria" would have given those skilled in the art the tools to improve the invention by having secure access to resources. This gives the user the advantage of having assets protected.

As per claims 23-24 and 37-38,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 9-10, respectively, and are similarly rejected.

10. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg ('Bringing Java to the Enterprise: Oracle on Its Java Server Strategy', Dave Rosenberg, IEEE Internet Computing, March-April 1998) as applied to claim 1 above, and further in view of Ng (Publication Number 2004/0225893).

As per claim 11, Rosenberg teaches

said database management system requests ... from an associated operating system where said request is made on behalf of said common language runtime.

(Aurora/Java: A Scalable Java Server, pages 55-56)

Rosenberg does not explicitly indicate "a secured data resource".

However, Ng discloses "a secured data resource" (paragraph [0070]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Ng because using the steps of "a secured data resource" would have given those skilled in the art the tools to improve the invention by managing how privileges or permissions are granted. This gives the user the advantage of having better security.

As per claim 12, Rosenberg teaches

said database management system providing the common language runtime.

(Aurora/Java: A Scalable Java Server, pages 55-56)

Rosenberg does not explicitly indicate "with a security policy that governs: whether a set of resources can be accessed by an execution code running in said common language runtime; and whether a set of operations can be performed by said execution code running in said common language runtime."

However, Ng discloses "with a security policy that governs: whether a set of resources can be accessed by an execution code running in said common language

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runtime; and whether a set of operations can be performed by said execution code running in said common language runtime" (paragraph [0070]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Ng because using the steps of "with a security policy that governs: whether a set of resources can be accessed by an execution code running in said common language runtime; and whether a set of operations can be performed by said execution code running in said common language runtime" would have given those skilled in the art the tools to improve the invention by managing how privileges or permissions are granted. This gives the user the advantage of having better security.

As per claim 13,

Rosenberg does not explicitly indicate "said database management system enabling said execution code to specify a set of Code Access Security (CAS) permissions that are used by the database management system to: determine whether said execution code is permitted to access a specific resource outside of the control of the database management system; and specify whether said execution code is permitted to perform operations that are identified as potentially compromising a measurement of robustness of a process operating in said database management system."

However, Ng discloses "said database management system enabling said execution code to specify a set of Code Access Security (CAS) permissions that are

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used by the database management system to: determine whether said execution code is permitted to access a specific resource outside of the control of the database management system; and specify whether said execution code is permitted to perform operations that are identified as potentially compromising a measurement of robustness of a process operating in said database management system" (paragraph [0070]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Ng because using the steps of "said database management system enabling said execution code to specify a set of Code Access Security (CAS) permissions that are used by the database management system to: determine whether said execution code is permitted to access a specific resource outside of the control of the database management system; and specify whether said execution code is permitted to perform operations that are identified as potentially compromising a measurement of robustness of a process operating in said database management system" would have given those skilled in the art the tools to improve the invention by managing how privileges or permissions are granted. This gives the user the advantage of having better security.

As per claim 14,

Rosenberg does not explicitly indicate "setting up a security policy that governs the common language runtime; and enforcing the set of Code Access Security (CAS) permissions."

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However, Ng discloses "setting up a security policy that governs the common language runtime; and enforcing the set of Code Access Security (CAS) permissions" (paragraph [0070]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg and Ng because using the steps of "setting up a security policy that governs the common language runtime; and enforcing the set of Code Access Security (CAS) permissions" would have given those skilled in the art the tools to improve the invention by managing how privileges or permissions are granted. This gives the user the advantage of having better security.

As per claims 25-28 and 39-42,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 11-14, respectively, and are similarly rejected.

Response to Arguments

11. Applicant's arguments filed 11/8/06 have been fully considered but they are not persuasive.

As per 35 USC § 101 rejections, the remaining rejections regarding claims 1-14 are maintained. In order to overcome the rejection it is recommended that the Applicant

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store to non-volatile media some result, manifestation of the runtime, or output some result to a user, which will make the claims statutory.

With regards to Applicant's argument that Rosenberg does not disclose "hosting the common language runtime (CLR) on the database management system (DBMS)", it is noted that Rosenberg discloses a Java Virtual Machine integrated with Oracles multithreaded server (page 55, column 3), which is equivalent to the aforementioned limitation. Therefore Rosenberg discloses the limitation.

With regards to Applicant's argument that Rosenberg does not disclose "executing requests by the CLR for at least one system resource via an API of the DBMS", it is noted that Rosenberg discloses explicit dependence of the Aurora/Java system on the hosting environment, with requests from Aurora to the environment for memory allocation, name resolution, and low-level system operations among other things (page 56, column 1), which is equivalent to the aforementioned limitation. Therefore Rosenberg discloses the limitation.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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